

**AMENDMENT UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1621**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PCT NATIONAL STAGE APPLICATION OF

Art Unit: 1621

WICHERT, ET AL

Examiner: Nwaonicha, Chukwuma

INTERNATIONAL APPLICATION NO:

Conf. No.: 2197

PCT/EP2004/010960

FILING DATE: October 01, 2004

U.S. APPLICATION NO: 10/573,723

35 USC §371 DATE: February 21, 2007

FOR: PROCESS FOR PURIFYING MESOTRIONE

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Assistant Commissioner for Patents
P.O. Box 1450
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

Applicants request review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated below:

The rejection of claims 1 – 15 under § 103(a) as being unpatentable over Ueda et al., Javdani et al., Jacobson and Jones et al. is in error since there is insufficient evidence to support the Examiner's contention of obviousness.

By way of summary, the present invention relates to (i) a process for reducing the levels of undesirable impurities in a mesotrione sample (claims 1-5) and (ii) process for producing mesotrione (claims 6-15) - both processes comprising performing one or more purification steps on a mesotrione enolate solution.

With regard to the subject matter of claims 1 – 5 - none of the references cited by the Examiner specifically teach the conversion of a mesotrione sample to the enolate solution.

Ueda simply teaches that cyclohexanedione compounds may exist as tautomers. While Ueda may (inherently) suggest the formation of the cyclohexane-1,3-dione enolate during the synthesis of the cyclohexane-1,3-dione, the reference does not specifically teach the formation of the enolate solution from a cyclohexane-1,3-dione sample resulting from the process (such as is discussed on page 2, lines 14-19 of the present application). Furthermore, Ueda does not suggest performing one or more purification steps to be conducted on the enolate so formed. These deficiencies are not remedied by any of the other references cited - as none of these references specifically teach the conversion of a mesotrione sample to an enolate solution.

There is absolutely no suggestion or motivation in any of the cited references that would cause one of ordinary skill to convert a mesotrione sample to an enolate solution on which one or more purification steps are performed in the absence of the teaching of the present application. The only suggestion to combine the individual elements alleged to be taught in the prior art comes from teachings contained in Applicants' own disclosure of the invention which is improper hindsight. A collection of teachings from various references of individual claim elements without more does not establish *prima facie* case of obviousness. Thus, it is submitted that the subject matter of claims 1 to 5 is not obvious.

With regard the processes for producing mesotrione in claims 6 – 15, it may be that the formation of the enolate is an intermediate product of the reaction of cyclohexanedione with NMSBC. However, the point is not that, in general, "enolate or tautomerism exists" as emphasized by the Examiner on page 2 of the office action; but rather, that none of the prior art references cited by the Examiner provide specific suggestion or motivation for one or more purification steps to be performed on the enolate intermediate formed during the reaction as specified in the present claims. The one or more purification steps may correspond to well known organic chemistry techniques. However, the inventive step of the process to which the present invention relates is the utilization of these known techniques at a specific point (enolate formation) of the process. It is this timing which results in the unexpected and significant increase in the purity of mesotrione obtained by the process. Again, it is only with hindsight benefit of the present invention that such a variation can be considered obvious - since there is no suggestion in any of the prior art references cited by the Examiner regarding the use of a purification step in respect of the enolate intermediate formed during the process. Accordingly, it is respectfully submitted that the subject matter of claims 6-15 is likewise non-obvious over the

cited prior art references. Reconsideration and withdrawal of the § 103 rejection of claims 1 – 15 are respectfully requested.

Applicants again traverse the provisional rejection of claims 1 – 5 under judicial doctrine as being unpatentable over claims 1 – 8 of copending application 10/598,993. As noted above, the presently claimed process requires that a mesotrione enolate solution be formed in order to carry out the instantly claimed process. This is not obvious over claims 1 – 8 of the '993 application whether taken alone or in view of Benke et al. Nevertheless, a terminal disclaimer will be taken under advisement once allowable subject matter has been identified in claims 1 – 5 herein.

A favorable reconsideration of the rejection is respectfully requested.

Respectfully submitted,

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